The Storm and The Fall
Lebbeus Woods
Princeton Architectural Press, New York
THE STORM
CONCEPT AND DESIGN: LEBREUS WOODS
DESIGN AND CONSTRUCTION: ALEXANDER GIL, AMIR SHAHROKHII
SITE: THE ARTHUR M. HOUGHTON GALLERY OF THE
COOPER UNION FOR THE ADVANCEMENT OF SCIENCE
AND ART, NEW YORK, NEW YORK
CONSTRUCTION COMPLETED 20 DECEMBER 2001
DISMANTLED 4 JANUARY 2002
SPECIAL THANKS TO ANTHONY VIDLER

THE FALL
CONCEPT AND DESIGN: LEBREUS WOODS
DESIGN AND CONSTRUCTION: ALEXIS ROCHAS
CONSTRUCTION: DAVID ROSS, JOON KIM, SANDRA
MUSY, ORION PAPALEK, REBDA GUSSEDIK
REPRESENTATION: HENRY ORBACH ARCHITECTURE
GALLERY
CONSULTANT: BETH WEINSTEIN
SITE: FONDATION CARTIER POUR L'ART CONTEMPO-
RAIN, PARIS, FRANCE, PART OF THE EXHIBITION "CE
QUI ARRIVE"
CONSTRUCTION COMPLETED 25 NOVEMBER 2002
DISMANTLED 30 MARCH 2003
SPECIAL THANKS TO PAUL VIRILIO

WORLD CENTER
CONCEPT AND DRAWINGS: LEBREUS WOODS
SPECIAL THANKS TO JOSEPH GIOVANNINI
The Fall

with Alexis Rochas
The enterprise of architecture is so heavily invested in the idea of resisting gravity that even the thought of a building falling down before its time is nothing short of a nightmare scenario. The heroic works of architecture are those that lift the materials of a building higher, or extend them farther, or make them thinner, or fashion a new form that defies gravity’s dominion and pushes the envelope of what is thought possible. It is one thing to plan a building’s demolition when it is deemed to have outlived its usefulness, quite another when it falls unexpectedly while it is still a viable structure for living and working. In such a case, there is not only a sudden loss of property, and of pride and confidence, but almost always of human lives. This traumatic scenario is played out every time a major earthquake occurs in a heavily built-up and populated urban area, bringing down scores of buildings that injure or kill thousands. It occurs when fire breaks out in a building and trapped inhabitants die from smoke and flames and heat. It occurs when neglect or “deferred maintenance” allows structural weaknesses of a building to grow into catastrophic failures. It occurs when war flares up in some part of the world and buildings blasted by

Lower Manhattan, 2003
bombs and artillery shells become death chambers rather than the sanctuaries they were intended to be. It occurred in Oklahoma City when an American terrorist’s bomb brought down the Federal Building and in New York when the World Trade Center towers fell under the aerial attack of Islamic extremists.

The consequences of this attack and the fall of the towers have been global in their scope and apocalyptic in their intensity. The United States government has dedicated billions to the erection of a “homeland” defense bureaucracy intended to stop future suicide bombers from fulfilling their desperately holy missions of destruction. It has also suspended some long-standing legal protections against unreasonable searches, seizures, detentions, and surveillance, ensuring the advent of a new era of political crimes and secret police presence in many aspects of formerly private lives. Other governments around the world, fearing that their “motherlands” or “fatherlands” will be the next targets, have followed suit, which bodes ill for the future of democracy everywhere, but especially in those countries where it has little or no hold already. Not least, vast new sums have been dedicated to military budgets, diverting resources and attention from badly needed social programs.
Given all this, it is strange indeed that the response of architects to the fall of the towers has been so routine. With one of the most urgently complex events in recent history unfolding before them, they have busied themselves designing new buildings of various sorts for the WTC site, dutifully living up to their job descriptions and, at the same time, exposing a bankruptcy of critical faculties, not to mention imagination. Because their chosen field is so comprehensive, incorporating aspects of science, art, politics, economics, and the rest of a long list of human concerns, one would expect them to look deeper than most other people into the event and its aftermath. Because architecture is at the very center of the event and the broad range of controversies around it, one would expect architects to feel the weight of their special responsibility to cast a long and critical eye on the complex role their field played in it as prelude to any proposals for rebuilding. This has not happened.

Understandably, the typical reaction of people and their institutions to catastrophes of this order is to fix the blame on the particular forces of nature, or the particular national enemies, or the perpetrators of the crime that brought about the destruction. Because we need to defend against possible and imminent
recurrences, we naturally look for the most immediate and direct cause of the fall and of its disastrous consequences. Blame is fixed and measures taken while everyone waits for the next blow. If it does not come we assume that the measures taken were an effective remedy. This is reasonable only if we do not consider them first aid applied to a traumatic wound. The break in the surface is closed, the bleeding stops, healing—at least at the surface—begins. The deeper wound, the trauma itself—embodied in the fall and its memory—is examined only in medical and academic quarters, far from public forums and discussions.

So abhorrent is the idea of the fall, so quick the rush to erase its evidence, so single-minded the effort to rebuild the sameness, that the reality of the fall itself and the nature of the transformations it has brought about are obscured. It is no surprise, then, that there is no progress in dealing with the unexpected fall of buildings. What is offered instead is a ritual reenactment of "the primordial fall": the same shock, the same platitudes uttered by the same people; the same search for villains, for heroes, for quick and effective remedies; the same desire to restore normalcy, even though it was that very normalcy that
sponsored the catastrophic event. Considering the tremendous capacity of human beings to penetrate complex phenomena and explicate their innermost workings—the atomic structure of matter, the workings of the human psyche, the evolutionary histories of extinct forms of life—one begins to suspect that when it comes to catastrophes like the unexpected fall of buildings, intellectual and emotional regression sets in. Confronted with the spectacle of something perfectly whole and stable—a coherent human presence within that becomes, a moment later, a pile of smoking rubble in which the human presence has been extinguished—imagination quails, reverting to formulas of magic and superstition.

In the mythical black-and-white universe of good and evil, of hero and villain, there is only before and after. Thus, the fall affects everything but changes nothing. Trauma and tragedy reveal causes and effects that can never be completely connected. In such a universe, causes are reduced to easily digested stereotypes and inevitably put aside. In the long aftermath of catastrophe, only effects are strenuously addressed. While this neatly sets the
stage for the next reenactment, with all its cathartic potential, an opportunity to embrace events more fully and to act more creatively is missed. It should be the purpose of experimental works of art and architecture to explore and reveal what T. S. Eliot called the shadow that falls between the idea and the act, the obscured realm between cause and effect—the space of the fall itself.

The installation designed for the main exhibition space of Jean Nouvel’s lucid building for the Fondation Cartier is entitled La Chute/The Fall. Its ambition is to expose the fall as a microuniverse that crystallizes the dimensions of a precise, if abbreviated, moment. In a space measuring roughly fifty-three by sixty-six by twenty-five feet high, enclosed on three sides by floor-to-ceiling glass, I made a particular construction, a physical and, at the same time, hypothetical manifestation of the fall.

Let us say, for the purposes of understanding the hypothesis, that the exhibition space suddenly collapses and the ceiling falls down toward the floor. This fall may be the product of any number of different causes—structural defects in construction or design, a terrorist’s bomb exploding, or something else.

Fondation Cartier, main space with grids and crew,
8 November 2002
entirely unexpected. The structural system—the materials supporting the building—resist the imperative to fall, but succumb to the attraction of gravity and suddenly give way, falling toward the planet’s center of mass. Gravity is neither more nor less than acceleration induced by the attraction of masses. In this case, the attraction is manifest at thirty-two feet per second per second. In the first second, the ceiling of the exhibition space falls sixteen feet toward the floor. After the next second, it is some twenty-five feet below the floor, well into the building’s many basements. The ceiling structures of the basements slow down the building’s fall, as the upper floors meet the resistance of the subterranean structure. Still, the collapse of the exhibition space takes less than two seconds—too fast to see, no doubt, but not at all too fast to conceptualize. This is the time-space of the fall—too brief to inhabit, except in imagination.

The essential feature of the fall is the acceleration of mass resulting from the disturbance of the inertia of the upper building masses by some external force. There is a tremendous release of energy—the “potential” stored in the materials and their arrangement above the ground—that became “kinetic” when they are liberated by a disturbance outside their system. There is
tremendous sound, dust, calamity. But what about the space? What happens to the space?

In the absence of actual collapse, we can project. The building's spatial system—a rectilinear three-dimensional grid—descends. The space of the exhibition is filled. It becomes a volume, not of fallen materials but of trajectories. The rectilinear system ordering the spaces of the building is projected downward toward the ground and below, toward the center of the earth. The fall of the grid would be straight if it were unimpeded, but there are perturbances in the active forces, irregularities in the grid that are amplified by the external forces, resistances encountered on the way down, as well as accidental collisions between descending vectors. The resulting spatial distortion is evident in the cumulative configuration of trajectory lines. In their descent, the downward trajectories of the grid become idiosyncratic. There is an interaction between their vectors producing gaps, distances, and dimensions that effectively form new and unexpected spaces within the former system. In falling, a transformation occurs. The former, regular order of spatial organization becomes "irregular," or regular in ways unaccounted for by the former system.
This new spatial organization is a territory wide open for speculation. We can safely suppose that it is based not on stability but on instability, on change from one form into another—perhaps even from one language of form into another. The former case is self-evident—we need only look. The latter case is true only if the rules governing language and its use have been transformed. And indeed they have—we need only think. Just as the physical structure acted upon by physical forces external to the system has deformed, or reformed, into a new configuration, so the strictly deterministic rule structure of the rectilinear grid has undergone the force of unanticipated, nondeterministic events, reforming it, too, into a new type of structure that engages the unpredictable conditions created by sudden and unexpected change.

Paul Virilio’s insight that the accidents occurring within a system are as designed as its intended results corresponds closely with the dynamics of unpredictability characteristic of a culture based on innovation and technological progress. As this implies, determinism by itself is no longer an adequate framework for understanding contemporary life or spaces designed for it, yet we

*The Fall*, installation view, 26 November 2002
cannot dispense with it. Instead, we should seek to enlarge its scope and deepen its implications. Determinism must be wedded, as it were, to nondeterminism. Goal-oriented predictability must be expanded to embrace accidents, chance, randomness, and unpredictability. This, as we know, has already happened in physics, biology, and cognitive science. It has happened in art to a more limited extent. It has happened in the everyday for people, living in technologically advanced countries, whose jobs and futures depend upon emotion-driven fluctuations in stock markets, currency speculation, and the vicissitudes of international politics. But it has not yet happened in architecture and design. True, there have been premonitory rumblings in the attempts by some architects to integrate postmodern concepts such as “deconstruction” into their practices, and by others to use computer technology to generate new forms and processes of formation, but these seem tentative at best—even this avant-garde for the most part remains loyal to traditional ideas of what a building “wants to be.”

When design aims only at enabling a desired stability—social, economic, psychological—its goals are determined in advance. A space is deemed
"functional" if it can be used in the way the designer prescribed and, presumably, its client or anticipated users intended. But when, as is often the case today, the goal is to enable unpredictability, to give people a high degree of freedom in how and why they need or use designed space, it is no longer possible to think of function or purpose or meaning as we have before. Mere "flexibility," in the old sense of adapting a form designed for one purpose to another purpose, or the same form to a variety of purposes, misses the point. What is needed are entirely new ways of thinking and working. The fall instructs us as to what these need to be.

Accidents, in the deterministic sense, are not designed, but simply "happen." They are out of control in that their what, where, or when can never be predicted exactly. But they are designed, in the Virilian sense, because the creation of any working system insures their probability, thus their inevitability. In that sense, we had better learn how to live with them, if they are not always to be catastrophic, or to work creatively with them, if anything constructive is to emerge in their aftermath. The first step is to acknowledge that accidents arise
spontaneously not from an infinite number of possibilities, but from a limited set of probabilities: a matrix, a trajectory field of unpredictably transforming vectors. They arise, in this case, from *within* the fall itself.

The fall, if we look closely and think critically, is a hybrid. It is a transformation embracing at least two systems, one changing into the other. A process and a philosophy, the fall is a becoming and a paradox, because it is two different, even opposing, things at the same time.

So too with the installation. Predetermined design goals are combined with spontaneous invention according to new types of rules for the shaping of space activated in the course of the installation process. The architect is no longer the planner who determines the shape of space in advance, but one who sets up the limits—the rule structure of materials and how they are shaped—then steps back and lets collaborators do the work. Design, as a determination in advance of what is to happen and how, is brought together with design as a calculated risk, an acceptance of accidents within a set of declared limits. In *The Fall*, if we are open enough to perceive it, we discover that not only the forms of
designed space are changed, but also the nature of how, even why, we design. In the process we find that we, too, have been transformed.

While the space of *The Fall* is not for everyone, it is part of an emerging reality few will be able to avoid or escape. It is an experimental domain where limits of all kinds are tested for those willing to take risks and embrace changes. It may be a foretaste of what is to come for a society that cares more for progress than security and values liberty above certainty. It may also be a glimpse into what architecture might become if it invests its creative capital less in the struggle against gravity and more in seeing what might happen when we let go.

*The Fall*, installation view, 26 November 2002
The building is called the World Center. It covers the former World Trade Center site and is the present to twice the height of the former WTC Towers. It remains perpetually under construction, and its ultimate height is not yet known. It is the tallest building in the world, and will, as it grows, always be the tallest building in the world. It is a symbol of regeneration and continual change. It is a project with a precise beginning—September 11, 2001—but no ending. Like New York City, it has a finite history and a future that can be defined only in terms of potential.

The World Center contains twenty-seven million square feet of office space plus twelve million square feet of public and private housing, as well as shopping malls, commercial facilities, sports and recreational facilities, and automobile parking. It also contains several interlocking systems of vertical mass transit, which connect with the new Grand Central Station Downtown, which connects with the city horizontally with the city and the region.

The main feature of the new structure is a vertical memorial park called the Atrium, which constitutes in various ways the experiences issuing from it. There are four ways to make the Atrium. The Pilgrimage (one month) is for the devout and consists of a series of climbs up a vertical for the ambitious, and consists of a series of climbs up a vertical for the events and aftermath of 9/11. The Trip (two or three days) is for the
and possibilities. Below, pieces where connections can be formed by new perspectives and experiences. Here, the democratic reach extends above the comprehensive umbrella of the city. Community is a network of diverse social classes—a series of windows into old, present, and future worlds. The same community evolving network of interest and excitement, where the public engages. It is a community where the World Center with a public and production of works connected with the cause, across, and upon, and others who have discovered themselves to the study of reflection and discussion. It is a community of residents (scholars, students, philosophers, artists) as well as workers in the World Center who have made the ascent and those who have contributed to the progress of culture, the arts, and literature, directly or indirectly, to the cause of 9/11. The summit is a community dedicated to reflection, study, and conversations about action, all related, indeed. In the age of the ascent is the summit a community, the ascent a place where connections can be formed by new perspectives.